

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 09/810,339  
Attorney Docket No. Q62091

### **REMARKS**

Reconsideration and allowance of this application are respectfully requested. Claims 1, 9, 11, 13 and 19 have been amended. Claim 4 has been cancelled. Claims 1-3 and 5-19 are now pending in the application. The rejections are respectfully submitted to be obviated in view of the amendments and remarks presented herein.

Applicant acknowledges with gratitude the indication that claims 7 and 9-18 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In the Amendment, therefore, claims 9, 11 and 13 have been amended to each include all of the features of claim 1. Additionally, claim 1 has been amended to include all of the features previously recited in claim 4.

### **Objection to the Title of the Invention**

The title of the invention has been objected to because the Examiner believes it to be not descriptive. Examiner requires a new title that is clearly indicative of the invention to which the claims are directed. In response, we have replaced the present title with PHOTOGRAPHING DEVICE WITH LIGHT QUANTITY ADJUSTMENT.

### **35 U.S.C. § 102(b) – Asao**

Claims 1, 2, 5 and 6 have been rejected under 35 U.S.C. § 102 (b) as allegedly being anticipated by Asao (JP 3 -70274) and English translation. The rejection is respectfully traversed.

Regarding claim 1, as amended, Applicant's claimed invention relates to a photographing device adjusting light quantity while imaging. A light quantity adjustment unit is provided in an optical path of light carrying an image of a subject and between an optical lens and a photographing unit. The light quantity adjustment unit "is a unit for adjusting the light quantity of the image of said subject for each color channel of said photographing unit when the image is taken by said photographing unit," as claimed.

Turning to the cited art, Asao discloses an image pickup device providing a liquid crystal panel 3 arranged between a lens system 2 and an image pickup element 4, as shown in Fig. 1. The Examiner states in his rejection of claim 4 over Asao that it would be obvious to one of ordinary skill in the art at the time the invention was made to replace the LCD 3 of Asao with an RGB display, relying on Official Notice. Applicant requests the Examiner to supply a proper supporting reference to show such a replacement. No description is found in Asao of any necessity to replace the liquid crystal panel 3 with an RGB display. In Asao, the liquid crystal panel 3 is made up of several picture elements, the light permeability of each can be independently controlled. The permeability of each picture element may be adjusted, functioning similarly to opening and closing a window or curtain to control the amount of light passing through (page 8, lines 2-12).

Examiner maintains that it would be obvious to replace the liquid crystal panel 3 of Asao with an RGB display so as to adjust light quantity for each color channel because the replacement would refine color light filtering of an image and improve color quality of the image. However, this is improper hindsight. Asao only adjusts permeability to reduce an

amount of light passing through picture elements. The control of permeability only acts as a curtain or window opening/closing effect, passing all, some, or none of the overall amount of light. There is no mention in Asao of adjusting the light quantity of the image of the subject for each color channel.

Therefore, at least by virtue of the aforementioned deficiency of Asao admitted by Examiner, the invention defined by Applicant's claim 1 is patentable over Asao. Applicant's claims 5 and 6 are dependent claims including all of the limitations of independent claim 1, which, as established above, patentably distinguishes over Asao. Therefore, Asao does not anticipate claims 5 and 6 for at least the aforementioned reasons as well of for their additionally recited features.

**35 U.S.C. § 103(a) – Asao**

Claims 3 and 19 have been rejected under 35 U.S.C. § 103 (b) as allegedly being unpatentable over Asao. The rejection is respectfully traversed.

Regarding claim 3, a photographing device comprises a light quantity adjustment unit provided in an optical path of light carrying an image of a subject and between an optical lens and a photographing unit. The light quantity adjustment unit is a unit for relatively increasing a light quantity of an area corresponding to a dark portion of the image of the subject when the image is taken by the photographing unit.

Asao discloses an image pickup device as described above. The liquid crystal panel 3 is made up of several picture elements, the light permeability of each can be independently

controlled. The permeability of each picture element may be adjusted by control signal formation circuit 11, which raises or lowers the light permeability of each picture element depending on brightness level of respective regions.

Examiner maintains that it would be obvious to modify the control circuit 8 of Asao so as to increase a light quantity of a dark area of panel 4 and to obtain proper exposure and thereby improve image quality, relying on Official Notice. Applicant requests the Examiner to supply a proper supporting reference to show the applicability of control of a liquid crystal panel in this situation. However, Asao is solely operable to only decrease light which results from reducing permeability and allowing less light to pass through to the photographing unit. When it is desired to reduce light in a high brightness level region, permeability is lowered such that less light passes through. At the extreme, permeability of the picture elements may be increased to a point where as much light passes through as possible. However, in Asao, light quantity of an area corresponding to a dark portion of the image is not increased. Instead, Asao only does not reduce permeability, such that the maximum amount of light passes through. Asao only operates to then reduce permeability and thus reducing the amount of light passing through when brightness level dictates. At least by virtue of the aforementioned differences, the invention defined by Applicant's claim 3 is patentable over Asao.

Regarding claim 19, information on an adjustment of the light quantity in the light quantity adjustment unit is recorded and held together with image data read after the adjustment has been made by the light quantity adjustment unit.

Asao discloses an image pickup device as described above. Examiner maintains that it would be obvious to modify the control circuit of Asao so as to record information on an adjustment of liquid crystal panel 3 together with the image data in order to verify the camera setting at the time of taking the picture. However, this again is improper hindsight. As admitted by Examiner, Asao does not disclose any adjustment information of light adjustment unit and image data that are recorded together. Official Notice is taken that attribute data such as exposure values (F stops) is recorded on a recording medium together with image data in order for a user to verify exposure data to improve user skill. However, attribute data such as F stop information and similarly date and time of the picture are subjective settings which the operator dictates and manually sets. Applicant's photographing device records information on an adjustment of the light quantity in the light quantity adjustment unit and holds it together with image data read after the adjustment has been made. Information on the adjustment performed by the light quantity adjustment unit is not general settings information such as exposure values (F stops). Additionally, this adjustment information is held together with image data read after the adjustment has been made. There is no mention in Asao of recording information on an adjustment of the light quantity in the light quantity adjustment unit, held together with image data read after the adjustment has been made, and it would not have been obvious to record such adjustment information of the light quantity adjustment unit. At least by virtue of the aforementioned differences, the invention defined by Applicant's claim 19 is patentable over Asao.

**35 U.S.C. § 103(a) – Asao in view of Hisatomi**

Claim 8 has been rejected under 35 U.S.C. § 103 (b) as allegedly being unpatentable over Asao in view of Hisatomi (JP 3-220878). The rejection is respectfully traversed.

Examiner admits that Asao does not disclose any light quantity adjustment unit that is disposed at a position deviating from an imaging position. Hisatomi does not remedy the deficiencies of Asao. Hisatomi teaches an automatic exposure corrector using a liquid crystal display 3 for exposure control (page 3, lines 11-18). A filtering operation is applied to areas on the liquid crystal display 3 which correspond to the areas specified by position data. This indicates a direct correspondence of pixel exposure to a specific filtering mask controlled to filter the specified corresponding pixel, which Examiner contends results in improved focusing operation and providing a sharp image. However, Applicant's disposition of the light quantity adjustment at a position deviating from the imaging position where the image of the subject is imaged results in the avoidance of unnatural boundaries by supplying a gentle density change at boundaries of bright/dark portions (page 18, lines 15-23). This is a direct contrast to the direct correspondence of filtering pixels as taught by Hisatomi, which would result in a sharp image with abrupt density changes and unnatural boundaries of bright/dark portions. At least by virtue of the aforementioned differences, the invention defined by Applicant's claim 8 is patentable over Asao in view of Hisatomi.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

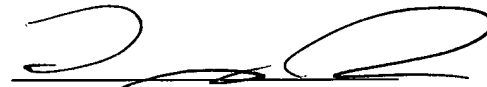
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**23373**

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